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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,326	01/14/2002	Laurent Roullet	Q68075	6676
23373	7590	02/03/2011	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			QURESHI, AFSAR M	
			ART UNIT	PAPER NUMBER
			2472	
			NOTIFICATION DATE	DELIVERY MODE
			02/03/2011	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/043,326	<b>Applicant(s)</b> ROULLET ET AL.	
	<b>Examiner</b> AFSAR M. QURESHI	<b>Art Unit</b> 2472	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11/02/2010 and Appeal Conference.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

**ETAILED ACTION**

1. In view of the Appeal Brief filed on 11/02/2010, PROSECUTION IS HEREBY REOPENED in order to address some of the issues argued by the Applicant in the appeal brief. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/William Trost/

Supervisory Patent Examiner, Art Unit 2472

***Response to Arguments***

2. Applicant's arguments, filed on 11/02/2010, with respect to empty cell are not persuasive. Examiner maintains that the 'silence codes' disclosed in the cited reference, Feldman, US 6,393,000, corresponds to the claimed empty cell. As responded to 'Applicant's Arguments' in the Final Rejection, dated 11/04/2009 (in addition to responses in other Office Actions, e.g., 8/3/2009) while the accepted meaning of an 'empty cell' is "filler cell" (as used in the Specification) or a "silent code" or a "blank cell" contain specified sequence code bits representing that the cell is blank or empty and related to the assigned bandwidth and the rate at which data to be transmitted.

One of skill in the relevant art relies on meanings and definitions presented within the confines of technical books, articles, prior inventions representing art of similar nature and dictionary explaining the technical concepts in computer telephony, the Internet, IP technology, Intranets, LANS & WANS, voice processing, wired or wireless telecommunications, carrier telephony, ISDN, T1, voice on the Internet etc.

Applicant argued, in general, that cited reference fails to determine if an information stream is *real-time* or *differed-time information* in a *mass memory*, and that *mixer* is adapted to *choose waiting cells from among cells stored in the mass memory*.

Wherein some of the arguments with reference to 'real-time' were responded to as disclosed by Feldman (col. 1, 52-54, 64-67 - voice) and a codec (mixer) adapted to read code and replaces it with comfort noise, Examiner notes that Feldman does not specifically disclose that the 'mixer chooses from amongst cells stored in the mass memory.

In order to further clarify and address the above arguments Examiner has withdrawn Final Rejection (11/4/2010). New ground of rejection follows as under.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feldman (US 6,393,000) in view of Charvillat (US 5,315,586).

**As to claims 1 and 4**, Feldman discloses a network station 4, a *relay for use in telecommunication equipment* (figs. 5, earth stations), *receiving* voice signal (*information stream*) from PSTN 2, consisting of signal and data (D and V) including 'silence code' (*empty cells*), a packet data interface unit 12 (*mixer*) detects the silence code received from codec 10. Codec 10 comprising a stream analyzer 46 (fig. 3) analyzing information stream (see col. 3, lines 60 through col. 4, lines 1-5). Comparator 25 stores cell information (*memory*). Decoder 22 (fig. 5) extracts identifying code ID from comparator 25, based on the match, the comparator 25 closes a data switch 26 and the decoder outputs the data (i.e., the combined function of switch 26 works as *transmitter*), (see col. 4, lines 23-56).

Feldman further discloses that the data is stored in LES 4 with silence codes, and signal V is analyzed for voiced/unvoiced stream (determining *for real-time stream or a differed-time stream*) and generates a set of decisions to choose from the stored data ((See col. 3, lines 60 through col. 4, lines 1-11)).

**As to claim 7**, the telecommunication equipment disclosed by Feldman is in satellite environment (see, for example, figure 1, col. 5, lines 7-17).

Feldman, however, fails to specifically disclose 'replacing empty information cells with waiting cells from among the waiting cells stored in a mass memory, as in claims 1 and 4.

Charvillat, in the same field of endeavor, discloses that the information stream is a real-time stream (see col. 1, lines 29-34) and a mass memory storing information stream cells (see col. 1, lines 53-46). Charvillat further discloses a flowchart (fig. 3). The program execution, by a UPC controller, starts by detecting cells from register R2, checks to see if the cell is an idle (empty) cell or not. If the current cell is empty, it checks the VPI/VCI field of the current cell against the VPI/VCI list to determine if other connections have already been established. If there are no other connections it outputs the idle cell to the data line 107. If other connection is present, it checks the contents of buffer 205 to determine if one or more cells of such a connection are *waiting*. If there is one control replaces empty cells with the waiting cell via the UPC algorithm that allows the waiting cell to be transmitted.  
(see col. 4, lines 34-65 and col. 5, lines 24-38).

The UPC controller, upon detecting an idle (empty) cell checks to see if there are other channels available to pass the data including idle cells, however if there are no other channels available (limited bandwidth), the controller checks if there are user cells waiting in the buffer for transmission and if the waiting cells are present it transmits the waiting cells in place of the idle cells. (See flow chart of fig.3).

In conclusion, Examiner believes that, when the available channels (or bandwidth) are limited, sending waiting cells from the buffer, instead of idle cells, is equivalent to claimed subject matter of 'replacing empty information cells with the waiting cell', as in claims 1 and 4.

As to **Claims 8 and 9**, in addition to the limitations discussed above in the rejection of claims 1, 4 and 7, Feldman discloses time sequence functionality (see col. 5, lines 43-50). Feldman is concerned, essentially, to a fair bandwidth allocation and transmission scheduling where policing functions are required to guarantee the QoS established at call set up by controlling the bit rate behavior during voice communication where bandwidth is reserved and/or facsimile communication based on needed bit rate. During voice communication silence codes are included.

However, since Feldman does not specifically disclose that the silent codes/empty cells are replaced by the waiting cells in the mass memory it is not sufficient to obviate the fair bandwidth and queuing scheduling to the subject matter claimed herein.

As discussed in the rejection of claim 1 above, Charvillat discloses (Reference Figure 3) the program that directs the reading of VCI/VPI and P/T fields of a cell from

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register R2 and checks the P/T field to see if it indicates that the cell is a user cell or not. If the answer is negative, control checks to see if the cell is an idle (empty) cell or not. If other connection is present, control checks the contents of buffer 205 to determine if one or more *cells* of such a connection are *waiting*. If there is one, the buffer is said to be not empty for that connection and control checks to see if the UPC algorithm allows the current cell to be transmitted. If the answer is affirmative control exits from the loop and outputs the waiting cell. If the cell is determined to be a user cell, control checks to see if the UPC algorithm allows the current cell to be transmitted. If the user traffic is not violating the contract parameters defined at the call setup time, control checks the contents of buffer 205 to see if other cells of the same connection are waiting therein. If the answer is negative (i.e., waiting cell present), control delivers a waiting cell from buffer 205 and stores the cell into buffer 205 (Col. 4, lines 33 through col. 5, lines 38). Charvillat further discloses to enforce traffic policy to guarantee the quality of service established at call setup by controlling the bit rate in the assigned bandwidth. One of ordinary skill in the art would readily realize that the silence codes (empty information cells) are directly proportional to a difference between needed bit rate (for quality of service) and required bandwidth since the empty cells are replaced by the waiting cell in order to maintain the QoS within the given bandwidth at a given bit rate.

Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the packet interface unit of Feldman wherein an UPC algorithm of Charvillat can be utilized in order to replace empty information cells by the waiting cell stored therein. In doing so the available bandwidth of the communication



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channel would be used with greater efficiency, as desired by Feldman (see Disclosure of Invention, col. 1).

5. Claims 2, 3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined invention of Feldman and Charvillat and further in view of Thiesfeld (US 6,529,971).

The combined invention of Feldman/Charvillat is silent about a relay with a Deleter, as in **claims 2 and 5** and Mixer adapted to choose waiting cells as a function of time scheduling rules as in **claims 3 and 6**.

Thiesfeld, in the field of transmission of information signal, discloses an adaptive elasticity first-in, first-out (FIFO) buffer, with a control circuit monitoring *deletion* in the FIFO buffer that is also a *deleter*. The FIFO buffer 316 stores the word from decoders 314, a state machine 365 controls a read/write pointers to maintain the first-in, first-out logic and to provide *fill words* (see Abstract and col. 6, lines 23 through col. 7, lines 1-2).

Therefore, it would have been obvious to one having ordinary skill in the art, at the time of invention, to be able to modify Feldman (see fig. 5) by incorporating FIFO buffer including state machine 365 of Thiesfeld to enable a mixer (or decoders) to choose waiting cells in time scheduling fashion. By incorporating FIFO, as above, will reduce the interference between the signals and enhance the transmission of information signals desired by Feldman (see col. 2, lines 14-22).

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ratikainen et al. (US 5,886,992); Oliva (US 6,917,590);  
Kawarai et al. (US 6,587,225 (see figs. 1 and 27, col. 5, lines 39-65 and col. 1, lines 45-50)).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AFSAR M. QURESHI whose telephone number is (571)272-3178. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571) 272 7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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